

# TypeScript Meetup

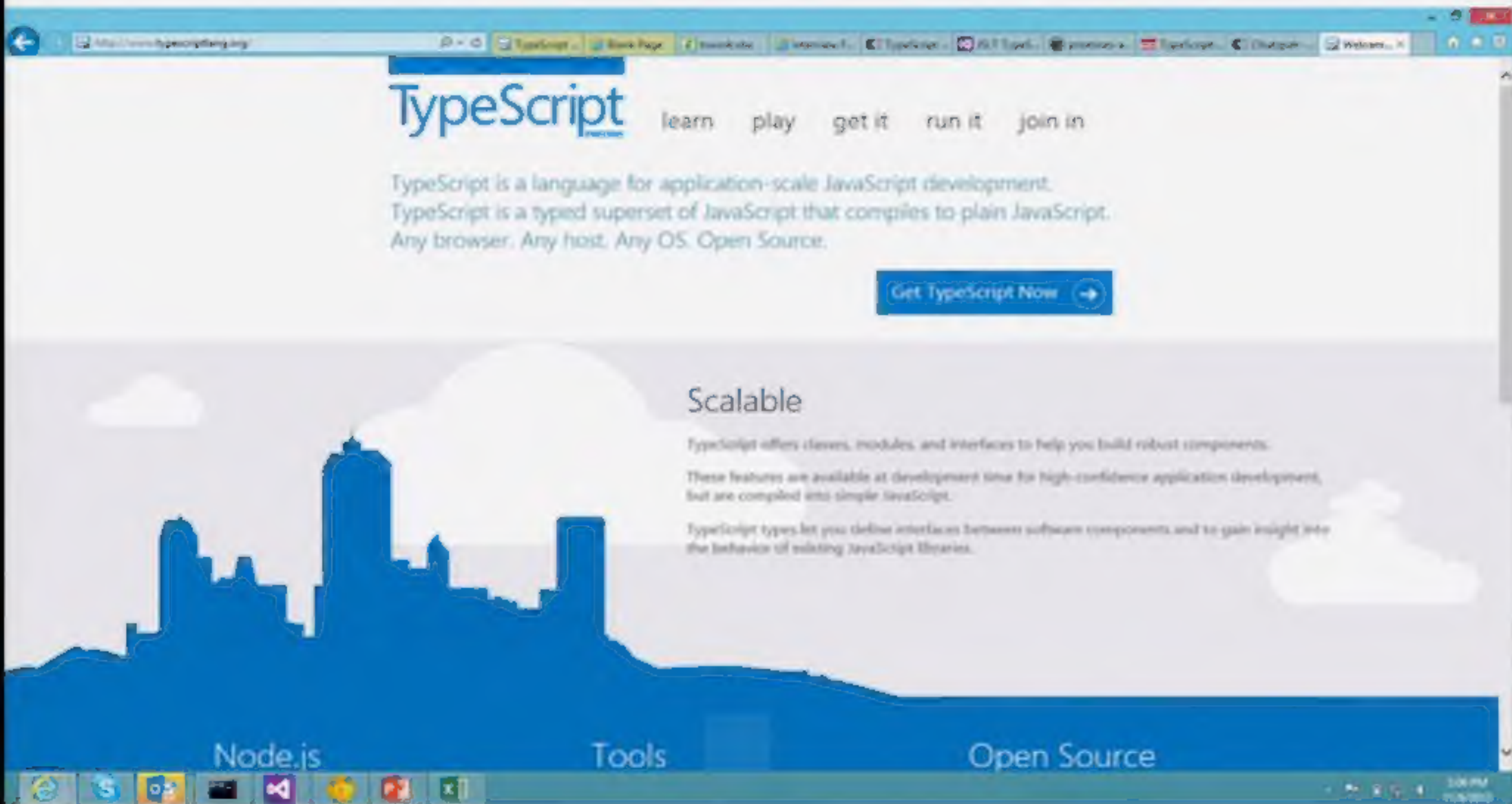
10 min	Around the room introductions
5 min	Opening comments by Anders Hejlsberg
20 min	TypeScript update by Luke Hoban
5 min+	TypeScript Q&A session with Luke, Anders, and Team
5 min	TouchDevelop demo by Michal Moskal
5 min	Socl demo by Todd Newman & Dan Marshall
5 min	ISLink demo by Randy Dodgen
15 min	Monaco demo by Chris Dias
50 min	Eat, drink, and talk about TypeScript

Contact: [stevenic](#)

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# TypeScript

# The Release





# Launch Assets

**TypeScript**



Assets	Goal
<b>TypeScriptLang.org</b>	Links to source. Monaco based playground. Download VS2012 Add-In or NPM install (& support in alt. IDEs)
<b>TypeScript.CodePlex</b>	Open Source downloads; roadmap
<b>Channel 9 Video</b>	Product overview by Anders
<b>Soma Blog</b>	Leadership story
<b>IE Blog</b>	Progress in ECMAScript community
<b>Port 25 Blog</b>	Open Source positioning

# Awareness + Mindshare

Website visits: 340019

Playground visits: 132180

Channel9 views: 343408 (25<sup>th</sup> most watched ever)

All JS thought leaders weighed in (neutral to positive)

Twitter sentiment ~75% positive

33% non-Windows visitors  
to [typescriptlang.org](http://typescriptlang.org)

(compare 12% for  
[windowsazure.com](http://windowsazure.com))

Microsoft's TypeScript may  
be the best of the many  
JavaScript front ends. It  
seems to generate the  
most attractive code.

- Douglas Crockford

Clever, elegant , simple  
and compatible. Well  
done!

- Chrome team member



# Ecosystem + Engagement

Forum posts: 1096

Stackoverflow questions: 281

Feature requests: 97

Tooling building on open-source TypeScript compiler

48 forks on CodePlex, 8 pull requests

TypeScript plugins to various server/build process:

Ruby, grunt, ASP.NET, node, compile-in-client, (+ more).

70 .d.ts library typings developed by library vendors and users.

Includes coverage of ~90% of top 20 JS libraries.

Support in Cloud9 two days after release

2<sup>nd</sup> ranked feature request for IntelliJ IDEA

# Adoption

Windows Installer Downloads (VS2012): 21727

NPM Downloads (x-plat): 5655

CodePlex Downloads (source): 3242

Top followed project on CodePlex

We ship every day, so it's extremely useful to have type checking. This finds bugs right away. I think it actually helps our agility.

- Kiran Badam, Bing

~ 500k LOC internal projects using TypeScript

Getting a demo from some Microsoft guys. TypeScript is epically good. I plan to consider using it for all my browser and node JS.

- Thomas Aylot, Facebook



# Roadmap

## v0.8.x – October 2012 – Awareness + Mindshare

Address critical release feedback

Debugging and Windows 8 support

## v0.9.x – Spring 2013 – Ecosystem + Engagement

Language support for rich library typings

Tools scalability (support 100k+ LOC codebases well)

## v1.0.x – Fall 2013 – Adoption

Align with ECMAScript standards

VS Blue alignment

## Blue Wave

Monaco/TypeScript to drive node.js on Azure & VSOnline

# M9 Drop (v0.8.1)

Next week

Address top external feedback  
Source map support

## Demo

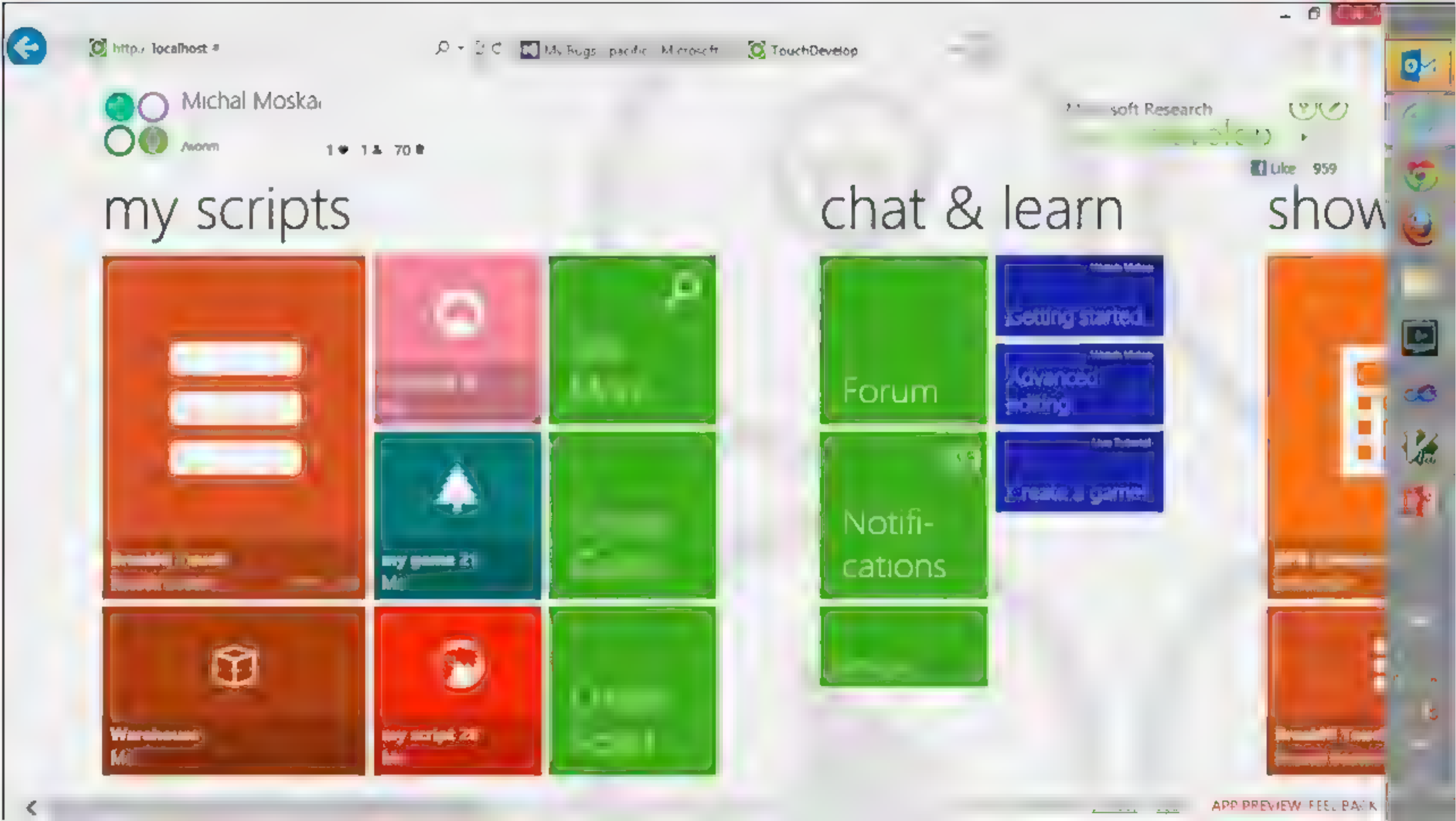


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http://localhost:8080

My Bugs pacific Microsoft TouchDevelop

Michal Moska

Avatar

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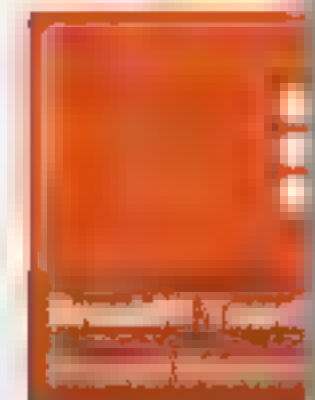
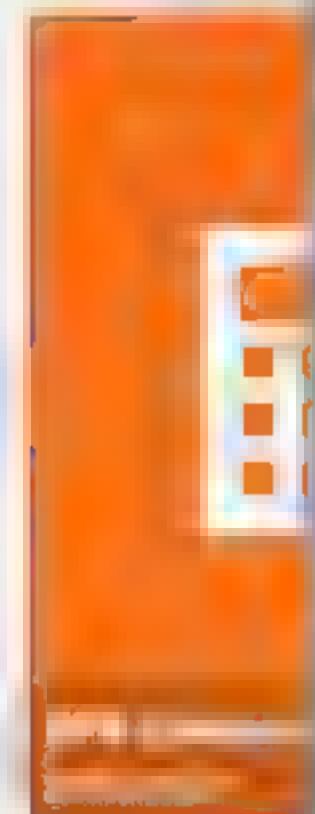
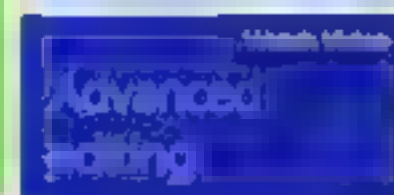
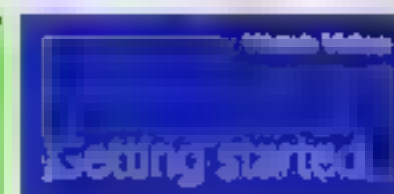
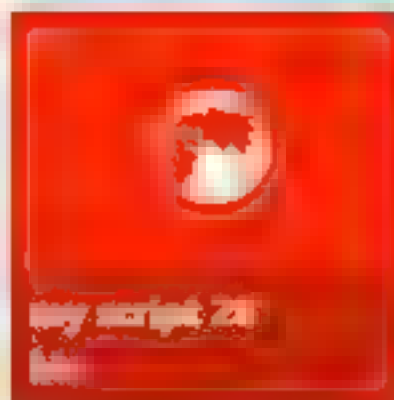
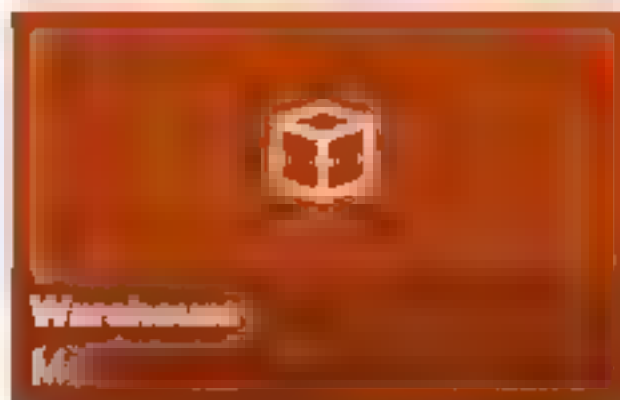
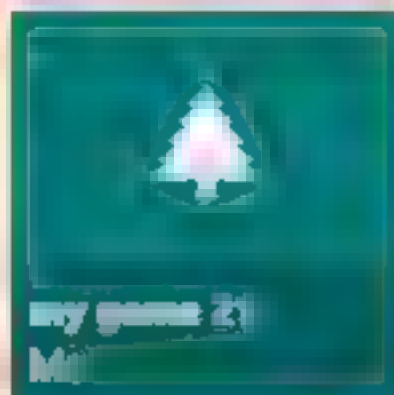
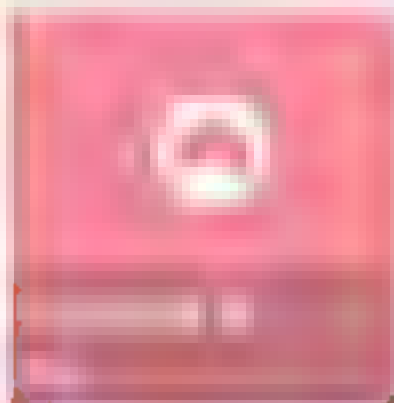
Software Research

Like 959

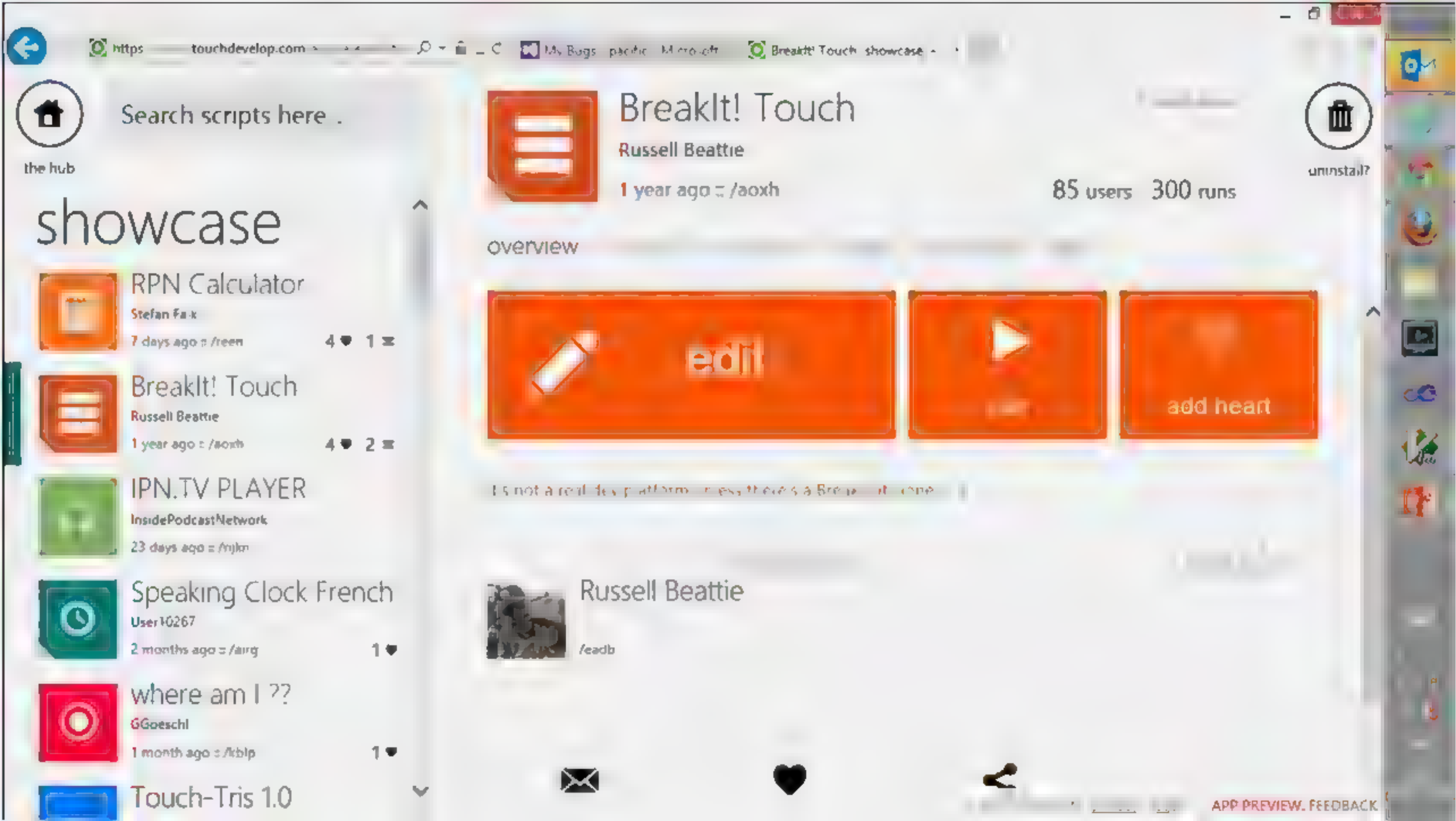
my scripts

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the hub

showcase

RPN Calculator

Stefan Falk

7 days ago [↗](#) /reen

4 ♥ 1 [↗](#)

BreakIt! Touch

Russell Beattie

1 year ago [↗](#) /aorh

4 ♥ 2 [↗](#)

IPN.TV PLAYER

InsidePodcastNetwork

23 days ago [↗](#) /njlkn

1 ♥

Speaking Clock French

User10267

2 months ago [↗](#) /airg

1 ♥

where am I ??

GGoeschl

1 month ago [↗](#) /kblp

1 ♥

Touch-Tris 1.0

BreakIt! Touch

Russell Beattie

1 year ago [↗](#) /aorh

85 users 300 runs

uninstall?

overview

edit

play

add heart

It is not a real dev platform, unless there's a BreakIt! one

Russell Beattie

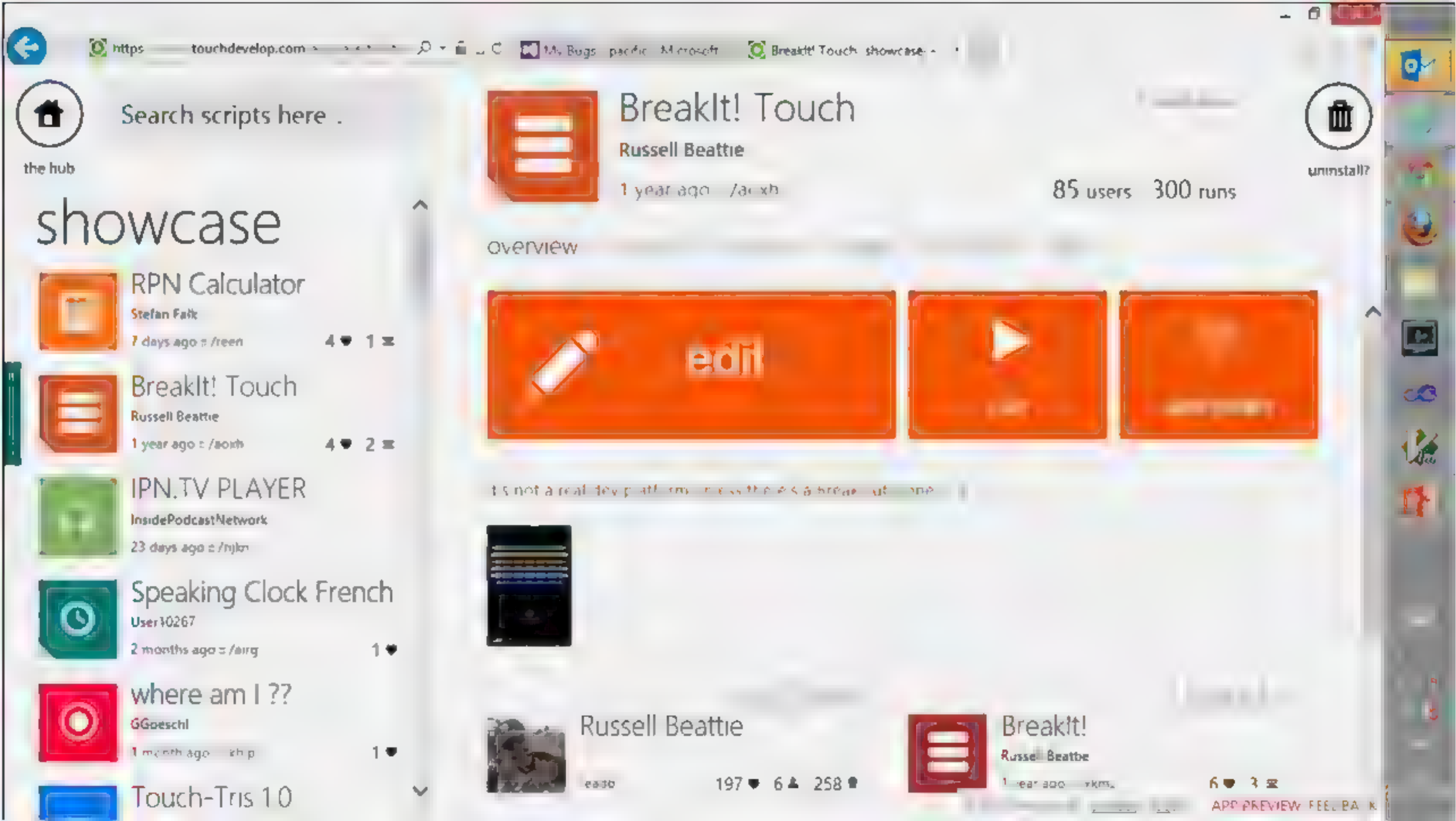
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APP PREVIEW. FEEDBACK



the hub

Search scripts here .

showcase

RPN Calculator

Stefan Falk

7 days ago · /reen

4 ♥ 1 ✖

BreakIt! Touch

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Russell Beattie

ea3b

197 ♥ 6 ▲ 258 ●

BreakIt!

Russe Beattie

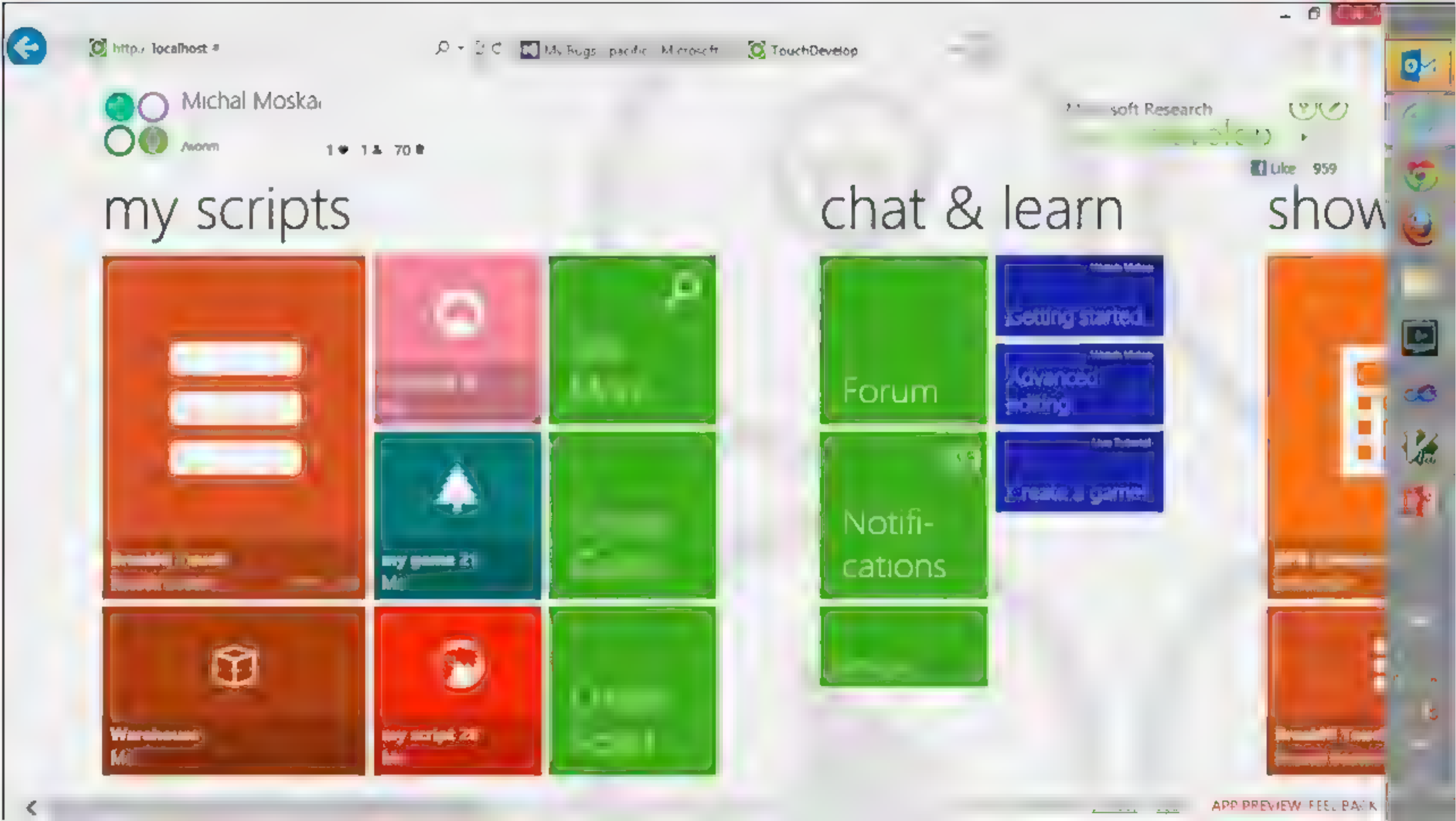
1 year ago · /kms

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APP PREVIEW FEEL PA K







http://localhost:8080

My Bugs pacific Microsoft TouchDevelop

Michal Moska

Avatar

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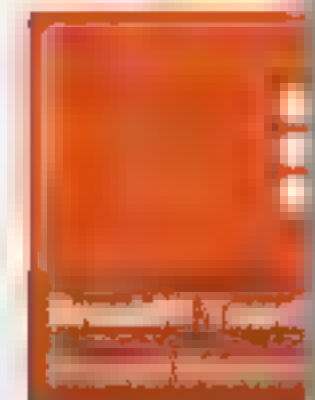
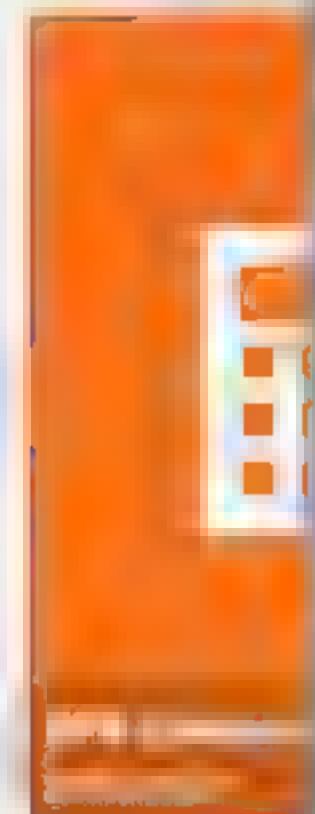
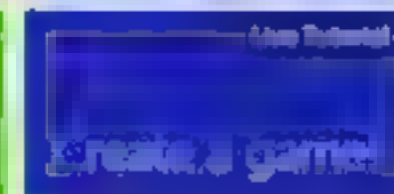
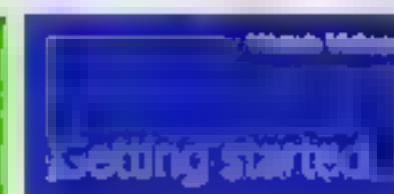
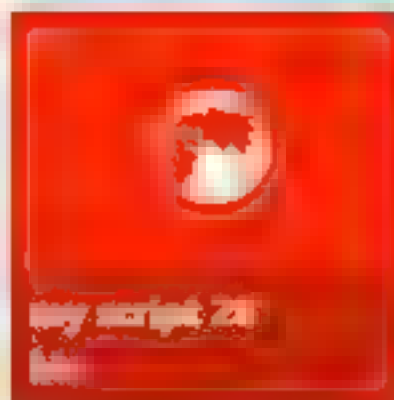
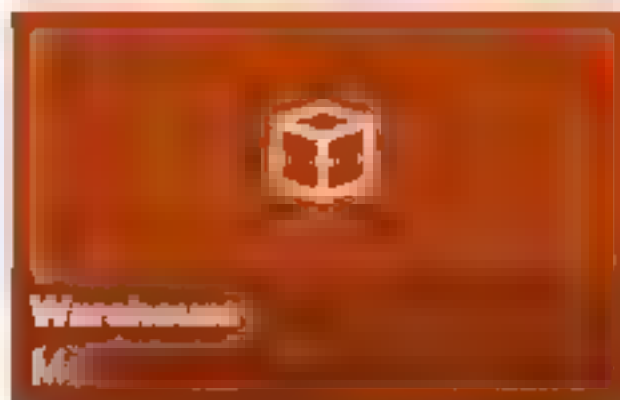
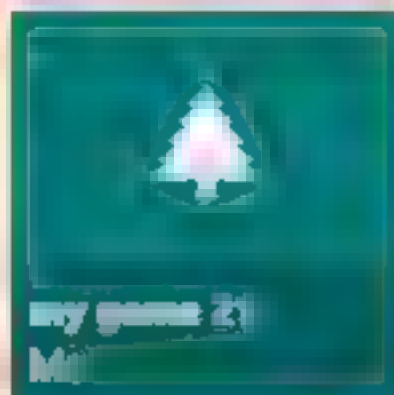
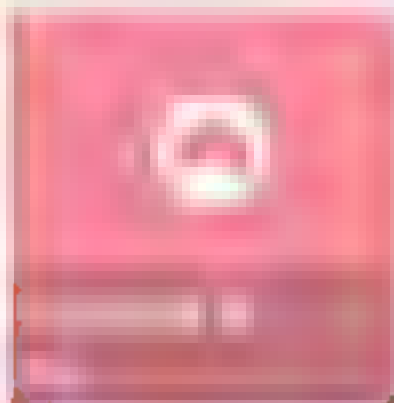
Software Research

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# TouchDevelop stats

- Code sizes:
  - 47,000 lines of TypeScript
  - 3,500 lines of CSS
  - 130,000 lines of C# in the cloud
  - (150,000 lines of C# in WP7 app)
- Single monolithic TS project; getting a bit slow to compile
- Started JS version in October 2011; failed; started TS in January

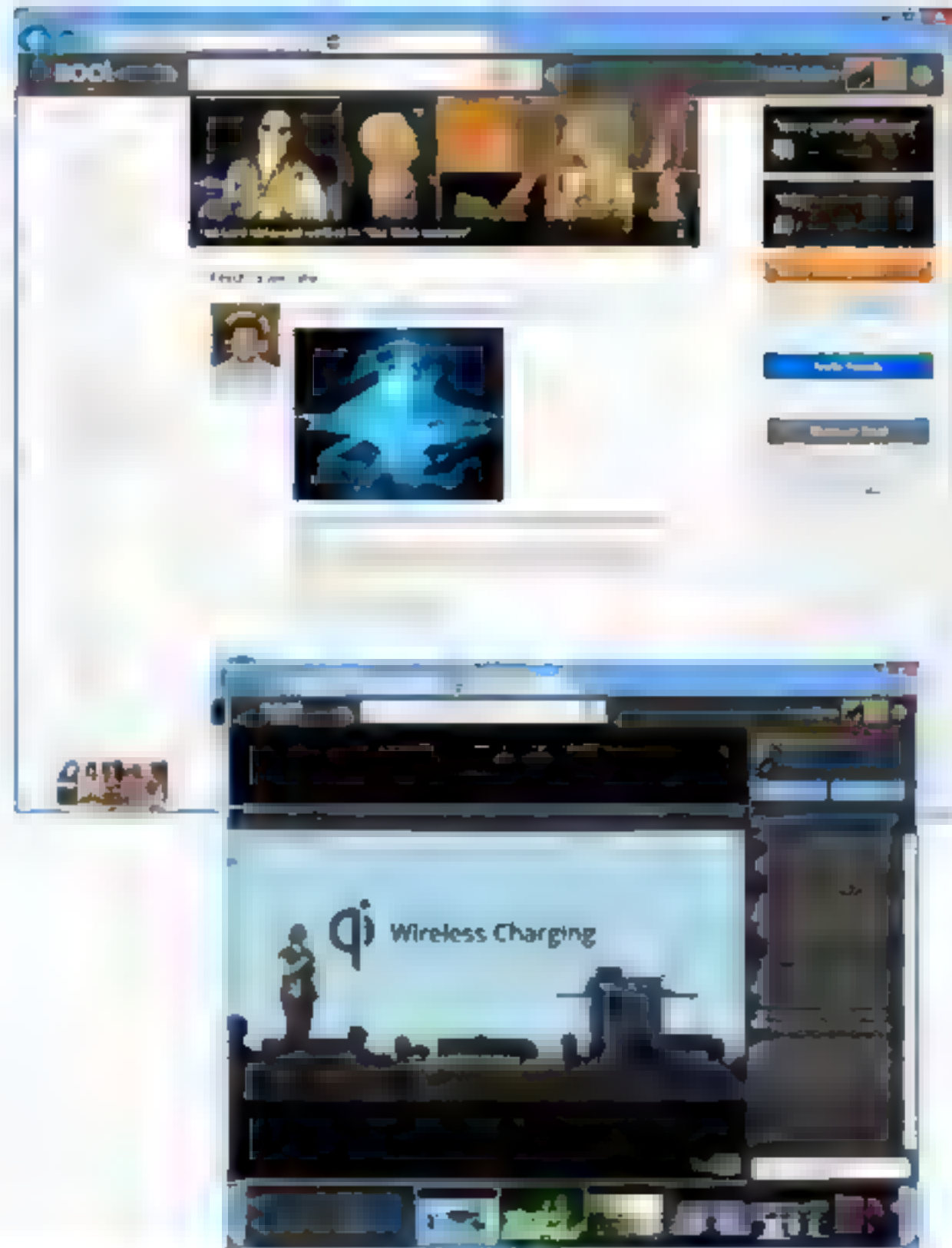


# SOCL

Dan Marshall, Todd Newman  
FUSE Labs

# Socl

- Experimental Social Network
- Launched December 2011
- 300,000 users
- Hosted on Azure
- Ajax based web app with lots of JavaScript
- TypeScript port started this spring





Demo

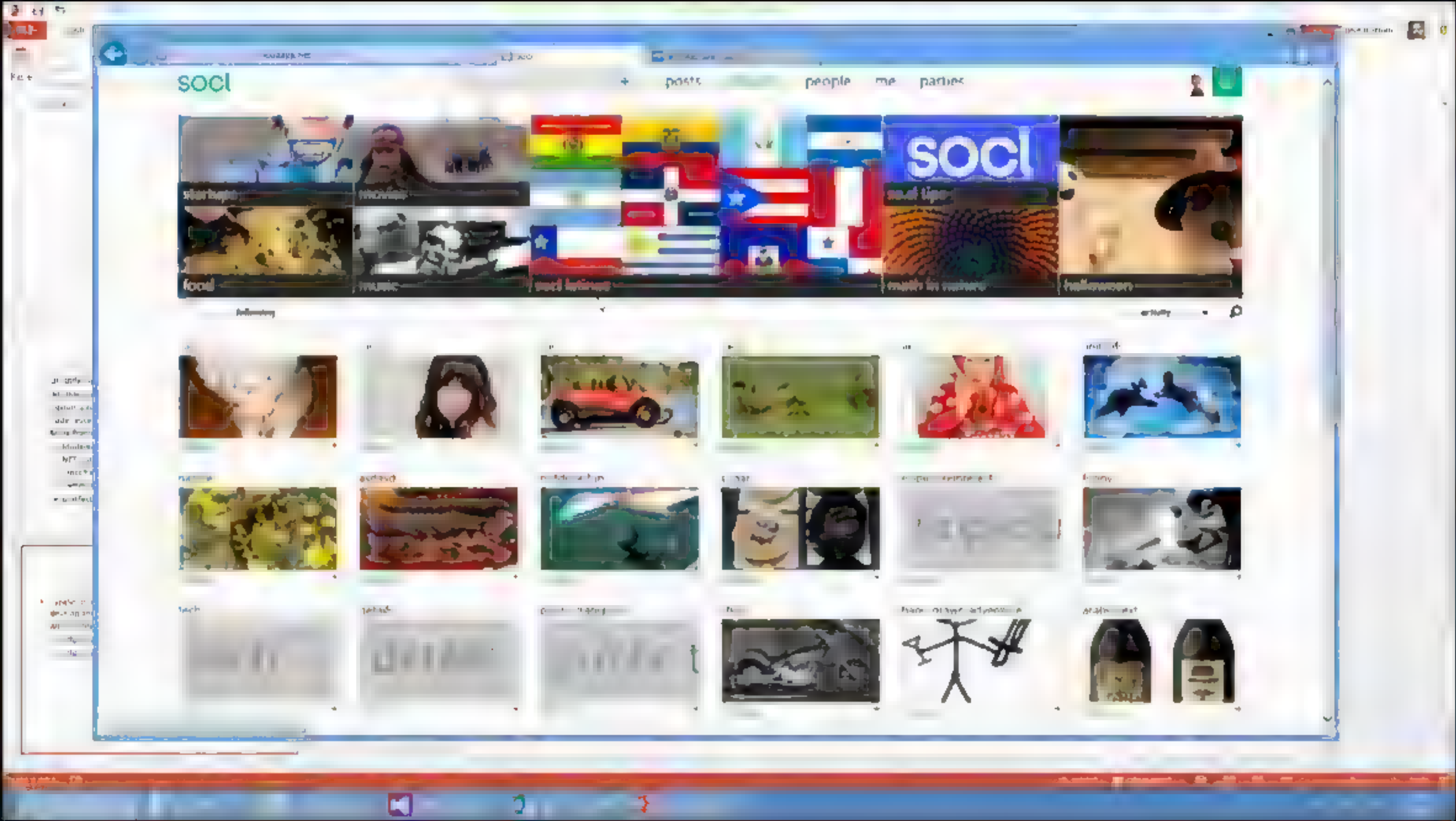
# Socl Codebase

- UI 100% TypeScript
- 30,000+ lines of TypeScript; 7 developers
- Custom packager for cross-project TypeScript references
- Code reuse across FUSE projects: So.cl, Bing, and Windows 8
- Score Framework
  - Modeled loosely on .Net
  - NET style events and IDisposable
  - Cross frame remoting via lightweight COM implementation
  - Common control library for UI development
  - UnitTest framework (migrating to QUnit)

# Socl and Score

- TypeScript made large JavaScript/jQuery project easier to develop and maintain
- All our code and tools are on CodeBox for Microsoft reuse
  - <http://codebox/Tulalip>
  - <http://codebox/score>





# Building JavaScript Libraries with JSLink

[randyd@microsoft.com](mailto:randyd@microsoft.com) / 6-Nov-12

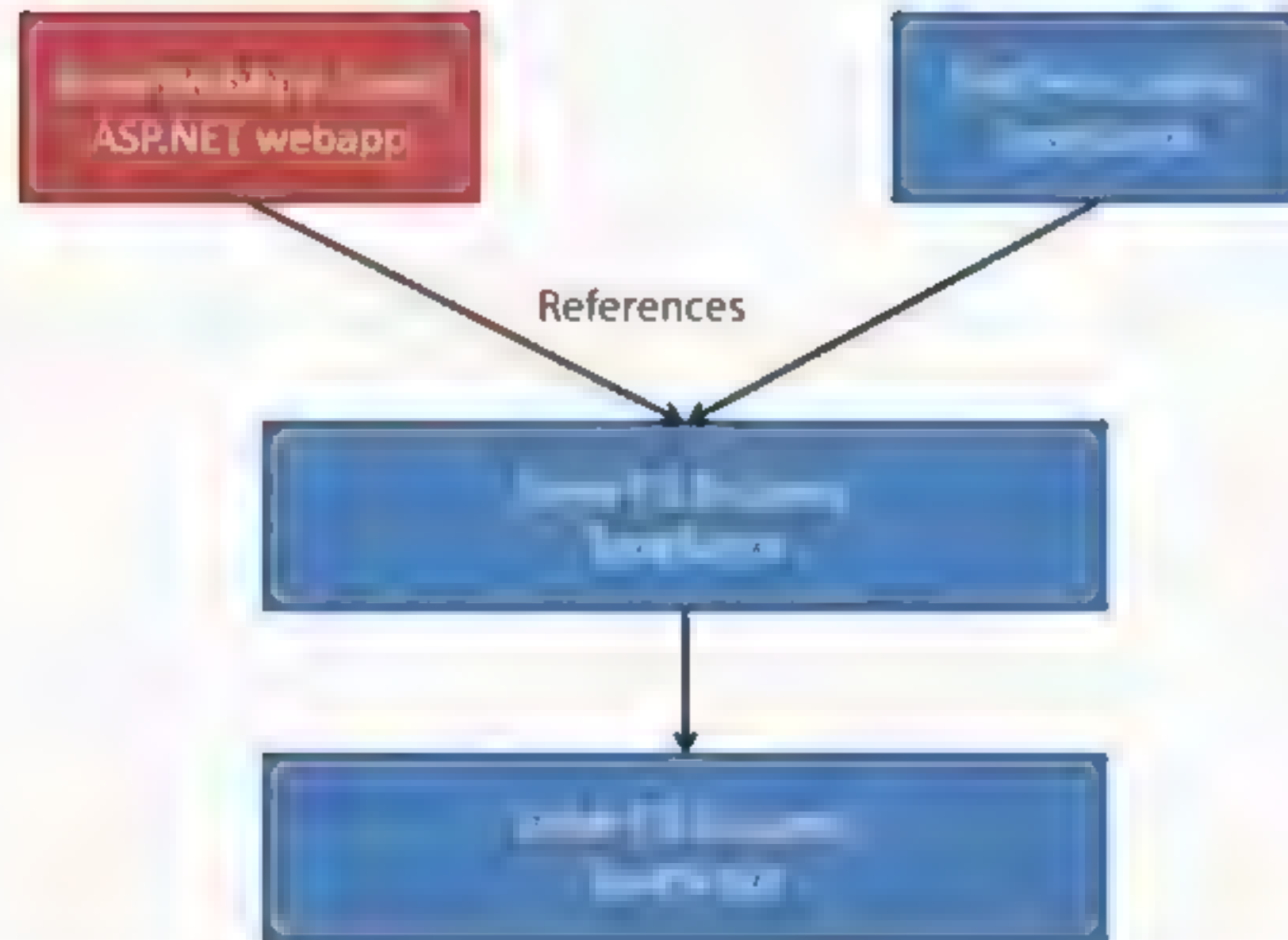
JSLink is a build and project system  
for TypeScript and JavaScript, built  
on MSBuild



# Key features

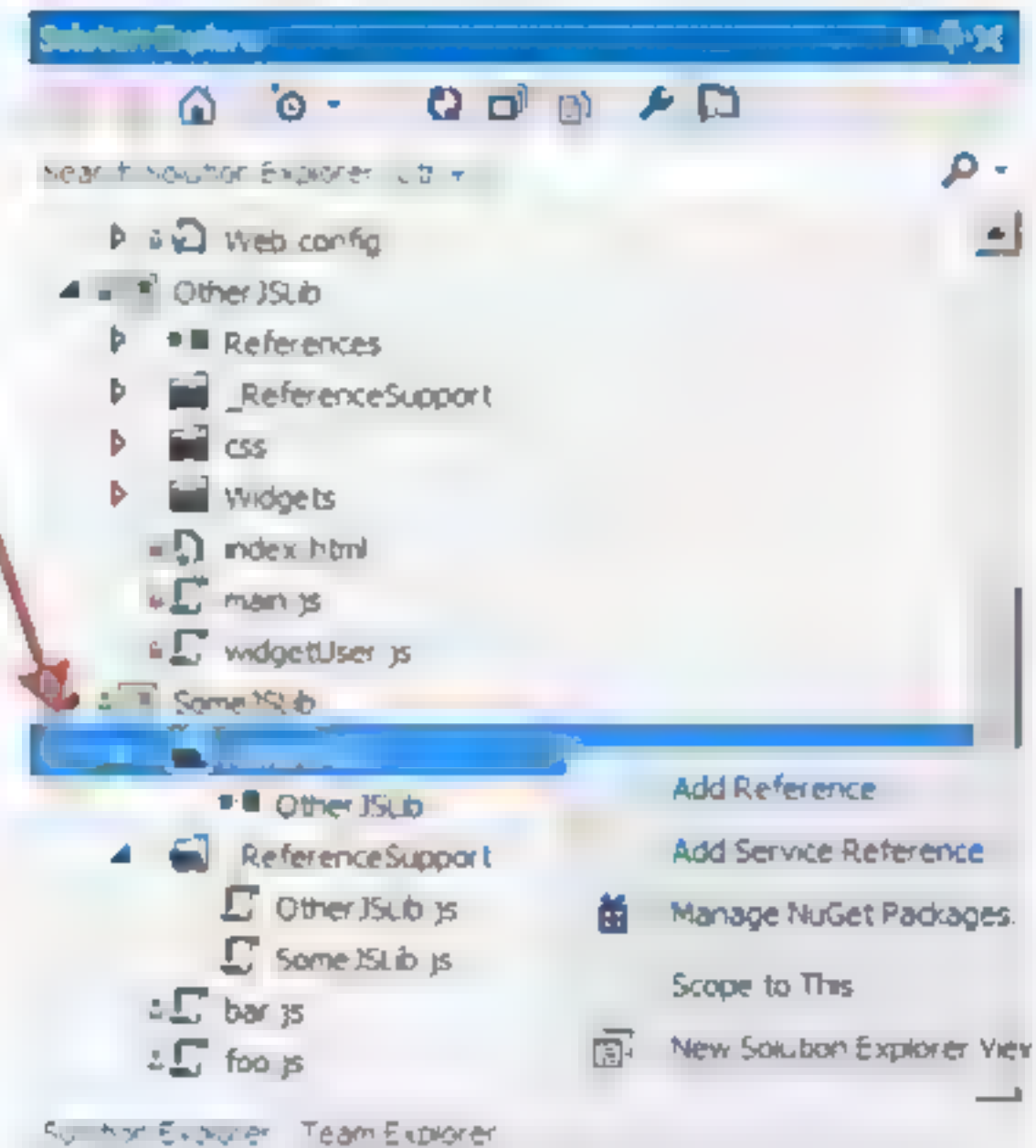
- Project-to-project references
  - Including references from managed projects
- Cross-project IntelliSense
- Bin-placed, ASP.NET, and Azure deployment support
- **JavaScript:** Combination of JS source files in dependency order

# Project support: Example



# Declaring project references

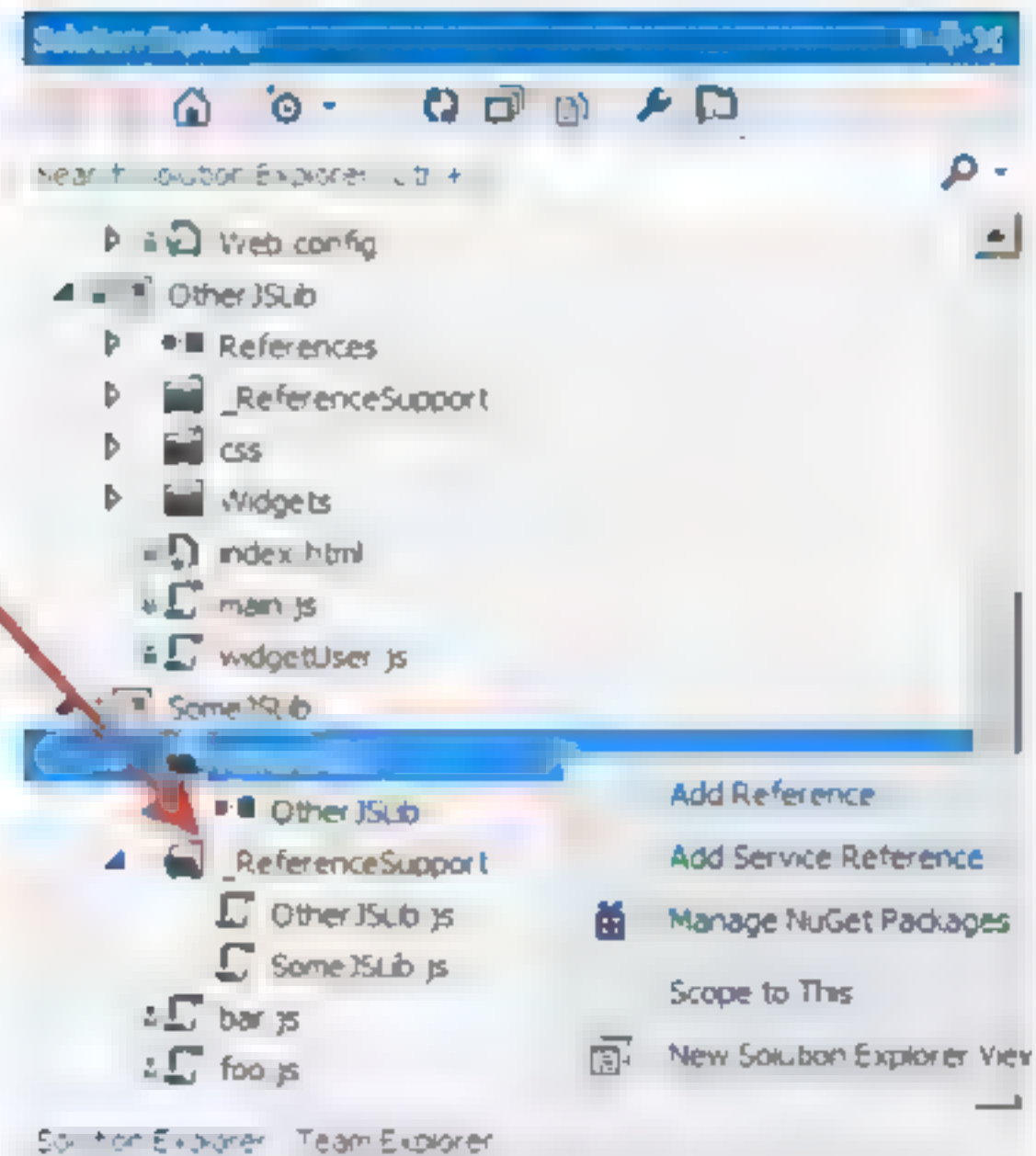
- Project references are managed via the normal VS UI.
- Managed projects can reference other managed projects as well as JS / TS libraries.
- JavaScript projects can reference TypeScript projects





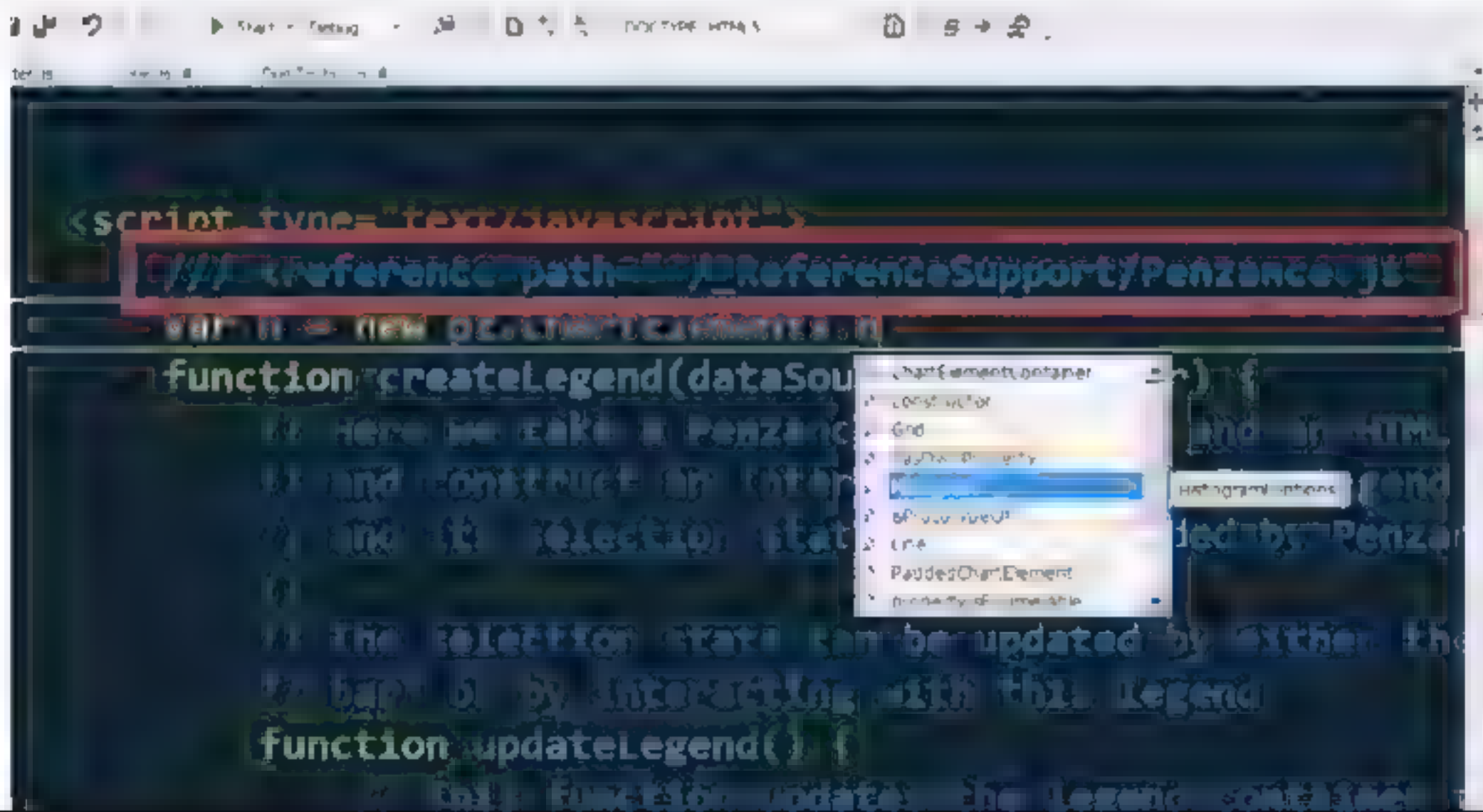
# Cross-project IntelliSense

Each built dependency populates a special **\_ReferenceSupport/** directory.



# Cross-project IntelliSense

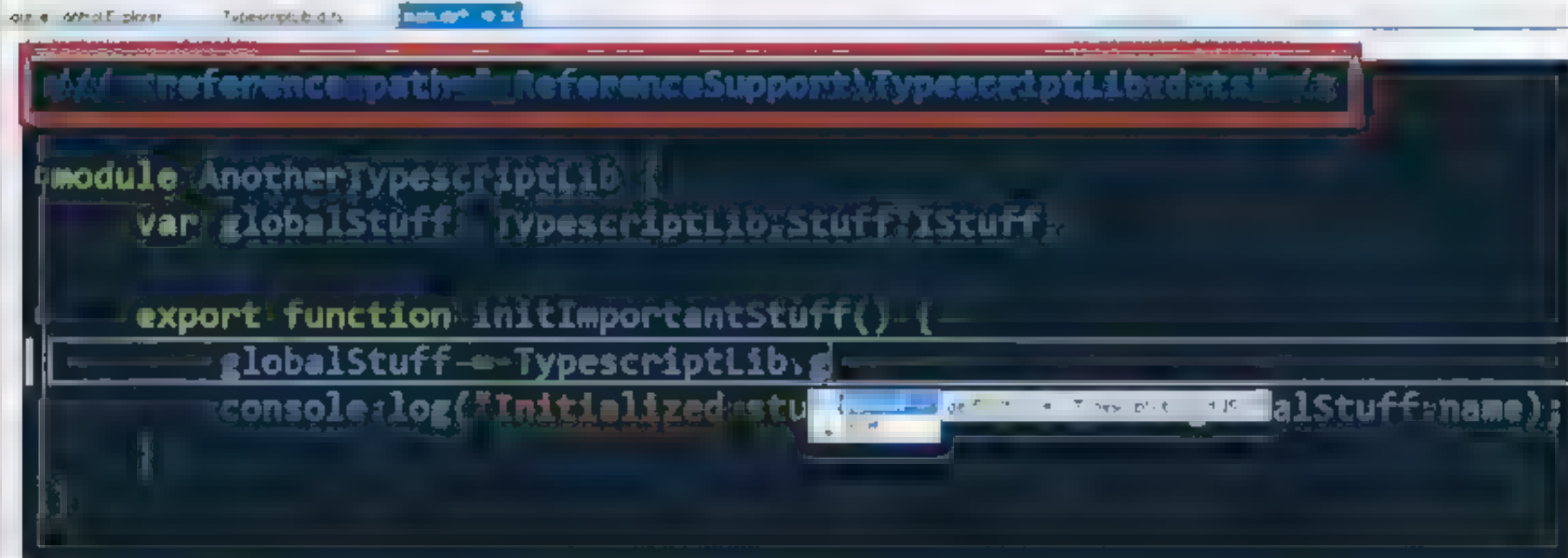
**Below:** IntelliSense for a library dependency from an ASP.NET view



# Cross-project IntelliSense

Typescript → Typescript references are supported via **generated declarations** (.d.ts)

**Below:** IntelliSense for one Typescript library from another



The screenshot shows a code editor window titled 'TypescriptLib.d.ts'. The code defines a module 'AnotherTypescriptLib' with a global variable 'globalStuff' of type 'TypescriptLib.Stuff', an exported function 'initImportantStuff()', and a call to 'console.log' that uses 'globalStuff.name'. A tooltip is visible over the 'globalStuff' property access, showing 'globalStuff: TypescriptLib.Stuff' and 'name: string'. The file path in the top left is 'referencepath\ReferenceSupport\TypescriptLib.d.ts'.

```
referencepath\ReferenceSupport\TypescriptLib.d.ts  
  
module AnotherTypescriptLib {  
    var globalStuff: TypescriptLib.Stuff;   
  
    export function initImportantStuff() {  
        globalStuff = TypescriptLib.g  
        console.log("Initialized stuff", globalStuff.name);  
    }  
}
```

**Typescript**



**Javascript**





# JavaScript: Combining files

Files are combined by inferring load-time dependencies from **<reference>** tags.

Shared effort between getting a correct build and effective IntelliSense.

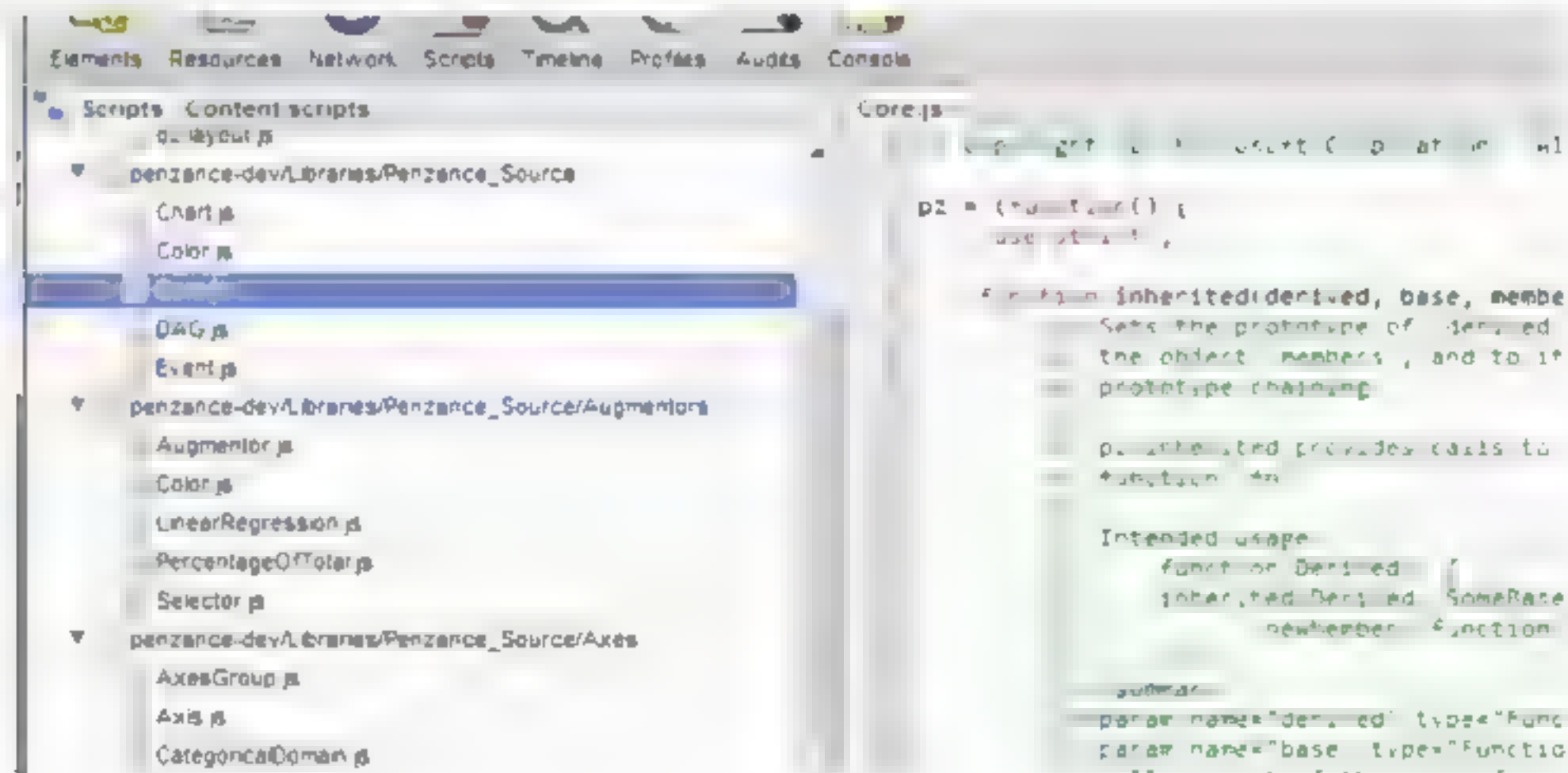
```
Copyright (c) Microsoft Corporation. All rights reserved.  
  
// <reference path="lib/core/References.js" />  
// <reference path="lib/ChartElements/ChartElements.js" />  
// <reference path="lib/Chart.js" />  
// <reference path="lib/AXES/AXES.js" />  
  
pz.plugin("ChartElements", function(pz) {  
    "use strict";  
    ...  
});
```

# JavaScript: Configurations

- **Release:** Single file (**SomeJSLib.js**)
- **Debug:** JavaScript source files are included as build output. A 'debug loader' (also named **SomeJSLib.js**) inserts script tags at page parse time.
- **In-place:** Like Debug, but the source tree is referenced 'in place'. Changes do not require a rebuild!

# JavaScript: Debug / In-Place Loaders

Below: Dynamically loaded source files



# What's in the box

- TypeScriptLibrary.targets; JavaScriptLibrary.targets  
Include instead of the C# targets
- JavaScriptReferenceSupport.targets  
Include in managed projects to reference JS/TS libraries

```
<ItemGroup>
  <TypeScript Include="main.ts" />
  <TypeScript Include="stuff.ts" />
</ItemGroup>
<ItemGroup>
  <ProjectReference Include="$(MSBuildThisFileDirectory)\OtherJSLib\OtherJSLib.esproj"
    {8E3266CC-8004-4F57-8092-F3CA89A10DAD}></ProjectReference>
  <Name>OtherJSLib</Name>
</ItemGroup>
<Import Project="$(JSLinkToolPath)\TypeScriptLibrary.targets" />
</Project>
```



<http://codebox/jslink>

# monaco

WILSON JONES / JAMES J. HARRIS / JAMES J. HARRIS / JAMES J. HARRIS / JAMES J. HARRIS

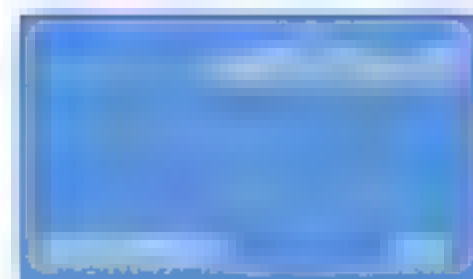
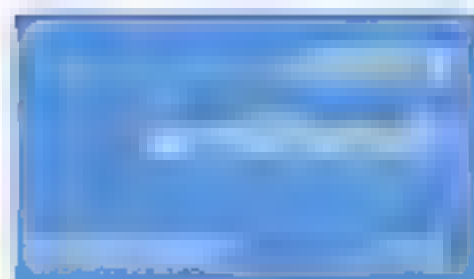
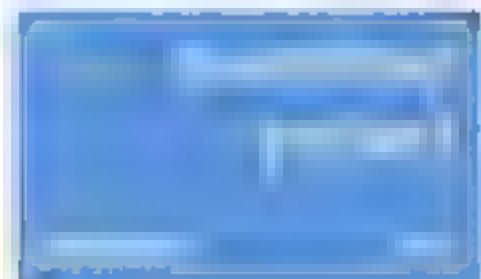
# global team

redmond	
name	title
john doe	manager
jane smith	analyst
bob johnson	analyst
London, Amsterdam, Frankfurt	

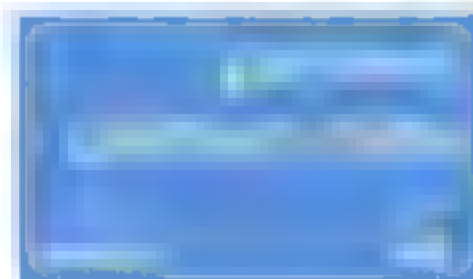
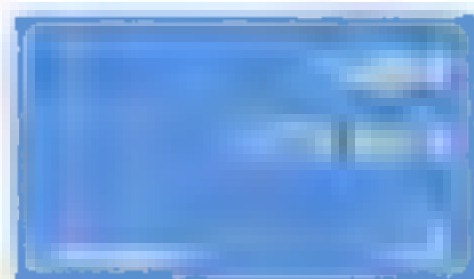
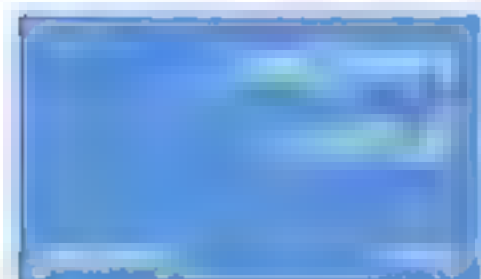
atlanta	
name	title
john doe	manager
jane smith	analyst
bob johnson	analyst

zurich	
name	title
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jane smith	analyst
bob johnson	analyst
john doe	analyst
jane smith	analyst
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London, Amsterdam, Frankfurt	

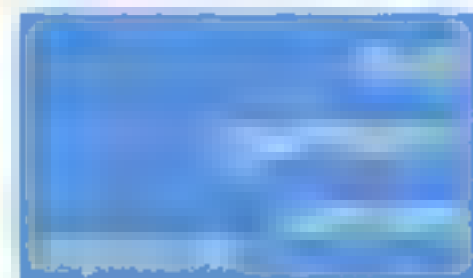
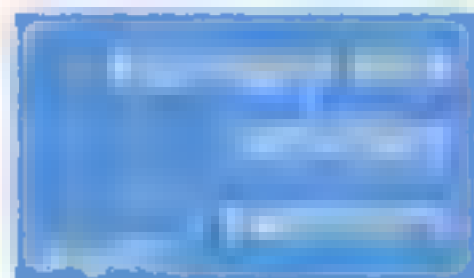
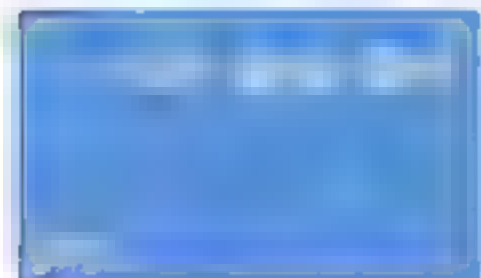
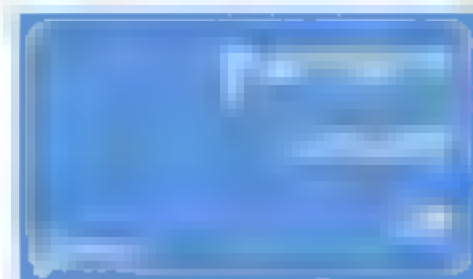
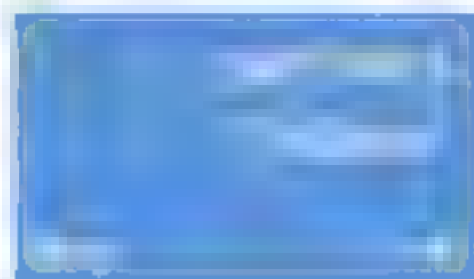
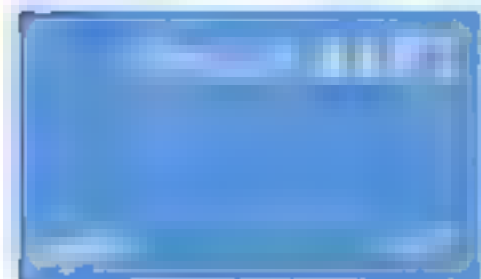
# journey



11



1





scenarios



time

to day

# partners

office 365 tools "napa"

tfs web access

azure mobile apps "zumo"

typescript playground

F12

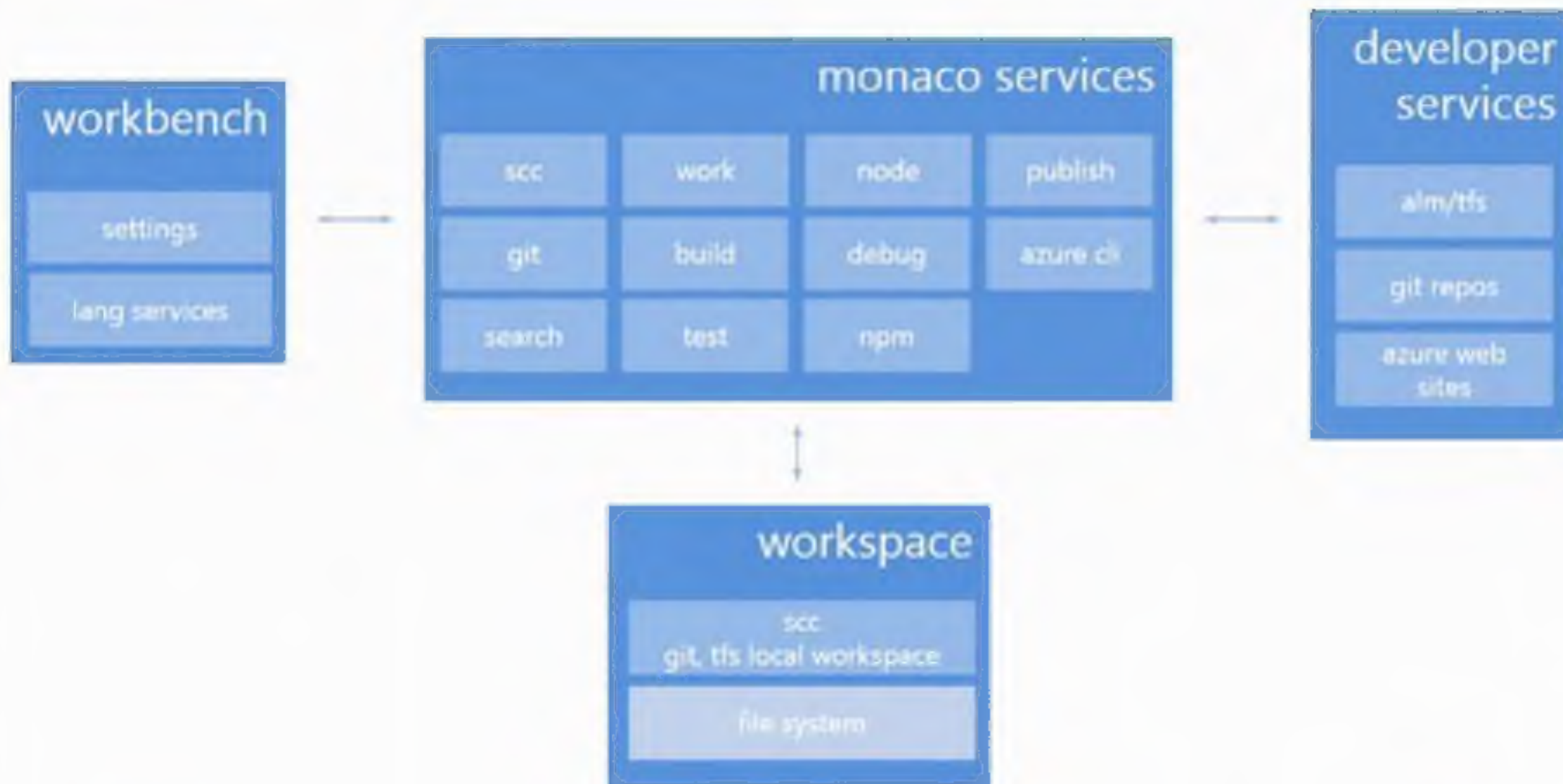
msr – rise4fun, pex, try f#, code canvas

msdn epix site management tools

twc – jscop online

sql tools – isotope.js

# today



browser

iisnode  
azure, on premise

cloud

## monaco statistics

TypeScript	105317	64%
JavaScript	50560	31%
CSS	6908	5%



platform: lap around <http://monacotools>  
partners: tfs web access, office365 “napa” tools, zumo  
companion: end to end online development

**DEMO**